3.8 RANGE RESOURCES - LIVESTOCK GRAZING AND WILD HORSES

3.8.1 AREA OF ANALYSIS AND METHODOLOGY

This section addresses range resources, which include livestock grazing and wild horses, in the 500-foot study corridor along the five route alternatives. This section provides a discussion of the livestock grazing areas, kind and class of livestock, and existing grazing management. Wild horses are also addressed through the regulatory framework that protects them, as well as a discussion of Herd Management Areas and consideration of their location along the study corridor.

REGULATORY FRAMEWORK

BLM Standards and Guidelines for Livestock Grazing

The BLM has established Standards and Guidelines by the Secretary of the Interior (43 CFR 4180). The purpose of these Standards and Guidelines is to ensure that the BLM administration of grazing helps preserve currently healthy conditions and restores healthy conditions of rangelands.

BLM Resource Management Plans (RMPs)

In addition, each of the three BLM Resource Management Plans (RMPs) that cover the project area (Shoshone-Eureka, Egan, and Elko) have developed rangeland programs that authorize livestock grazing on public lands (43 CFR 1601.0-5(b) and CFR 4100.08). The regulations require that BLM manage livestock grazing on public lands under the principle of multiple use and sustained yield. To accomplish this, rangeland has been broken down into controllable allotments to manage short- and long-term objectives for livestock grazing. Allotments are leased to permittees for a defined period of time. Allotments are managed to increase availability of forage and develop improvements, and are evaluated periodically to determine whether management goals are being met.

Wild Free-Roaming Horse and Burro Act

The Wild Free-Roaming Horse and Burro Act (the Act) of 1971 (Public Law 92-195) protects wild free-roaming horses and burros from capture, branding, harassment, or death. It also defines their ecological role on federal lands and their historical and cultural value. These populations are to be managed to "achieve a thriving natural ecological balance." The Act was amended by the Federal Land Policy and Management Act of 1976 and the Public Rangelands Improvement Act of 1978 to require the protection, management, and control of wild free-roaming horses and burros on public lands. These acts allow managing agencies to use helicopters to manage and/or remove wild horses deemed to be in excess of what the range can support. They apply to all unbranded and unclaimed horses and burros on public lands administered through the BLM or the Forest Service (43 CFR 4700).

Herd Management Areas (HMAs) have been established, as a requirement of the Act, for the maintenance of wild horse and burro herds. In Nevada, wild horses and burros are found in approximately 100 HMAs. The BLM maintains and manages wild horses and burros in HMAs. Establishment of HMAs must take into consideration the appropriate management level for the herd, the habitat requirements of the animals, and the relationships with other uses of the public and adjacent private lands. An HMA Plan must be prepared by the managing agency. The objective of the management of wild horses and burros is to limit the animals' distribution to the herd areas (43 CFR 4700). A herd is defined as one or more stallions and his mares. The management of these animals is conducted at the minimum feasible level to treat them as wildland species and not as livestock. Management strategies include monitoring, removal of excess animals, preparing animals for adoption, adoption, and compliance (BLM 2000).

Wild horse and burro herds increase at relatively high rates because they lack true natural predators. Populations generally increase at a rate of approximately 18-20% per year. When populations exceed the capacity of their habitat, there is no longer a thriving natural ecological balance. The BLM annually monitors the conditions of these populations and their habitat, and decides if animals need to be removed from their range. In Nevada, they are normally gathered using helicopters. BLM prepares them for adoption through permanent adoption centers. The BLM charges an adoption fee of $125 for each wild horse or burro. Potential adopters need approval from a BLM official (BLM 2000). Nevada has a Wild Horse Management Plan that presents advice and counsel to the Nevada legislature regarding preservation and protection of wild horses, under a multiple-use concept.

3.8.2 AFFECTED ENVIRONMENT

LIVESTOCK GRAZING

The study corridor is open to livestock grazing areas managed by the BLM. All 12 proposed route alternative segments and re-routes cross through allotment areas. Based on grazing allotment maps obtained from the BLM Field Offices, livestock grazing covers nearly 100% of all segments and re-routes. Using a one-mile distance on each side of the centerline, it was determined that the route alternative segments cross 39 grazing allotments, which are administered by the three BLM Field Offices. Thirteen allotments are located within the Elko BLM Field Office management area, 16 are in the Battle Mountain BLM Field Office management area, and 10 are in Ely BLM Field Office management area. Cattle is the predominant livestock type for grazing. Sheep grazing is also a common practice, and horse grazing takes place only in the Elko and Battle Mountain BLM Field Office management areas. Twenty-four permittees exclusively graze cattle, but 12 graze sheep and 5 graze horses in addition to cattle. Two permittees exclusively run sheep on their allotments. Table 3.8-1 lists the livestock grazing allotments, acreage of allotment, kind and class of livestock, active permitted grazing use, and animal unit months (AUMs). Figure 3.8-1 displays grazing allotments as mapped in the GIS by the BLM State Office.

The fires that occurred in 1999 and 2000 are mapped on Figure 3.4-1 and affected some grazing allotments. Grazing allotment management is guided by three RMPs, including Shoshone-Eureka RMP (for Battle Mountain BLM Field Office), Elko RMP, and Egan RMP (for Ely BLM Field Office). Allotments are evaluated periodically to ensure that the management objectives are being reached and that range improvements are made on those allotments with the greatest potential for improvement in resource conditions and return on investment.

Please note that the AUMs in Table 3.8-1 correspond to total AUMs for each allotment. It would be erroneous to assume that these AUMs are evenly distributed within an allotment. This assumption would provide erroneous numbers of AUMs impacted by the transmission line.

WILD HORSES

Wild horses occur within eight HMAs that are crossed by the study corridor: Diamond Hills North, Diamond Hills South, Diamond, Buck and Bald, Rocky Hills, Roberts Mountain, Whistler Mountain, and Fish Creek. Five additional HMAs are located within 1 to 5 miles of the route alternative segments, but would not be crossed by the transmission line: Cherry Springs (USFS), Butte, Bald Mountain, Monte Cristo, and Jakes Wash. Figure 3.8-2 shows the HMAs located in the vicinity of the project. No burros were observed along the study corridor during the wildlife surveys.

FIGURE 3.8-1: GRAZING ALLOTMENTS

FIGURE 3.8-2: HERD MANAGEMENT AREAS

TABLE 3.8-1: LIVESTOCK GRAZING ALLOTMENTS WITHIN ONE MILE OF THE ROUTE ALTERNATIVE SEGMENTS

Allotment Name	Allotment Number	Kind and Class of Livestock	Acres in Allotment	Total AUMs	Segment
Elko BLM Field Office					
Bruffy	5405	Cattle	18,800	1806	E
Devil's Gate	5412	Cattle	13,926	374	C
Geyser	5423	Cattle	130,089	1227	A,B,C
Horseshoe	1012	Cattle		1630	A*
Iron Blossom	5430	Cattle		1539	C*
Pine Creek	5445	Cattle	16,251	150	D
Pony Creek	5447	Cattle, Horses, and Sheep	16,310	1509	E*
Red Rock	5452	Cattle and Sheep	36,553	7503	E
Safford Canyon	5456	Cattle	9,770	1342	C*
Scotts Gulch	5459	Cattle	22,539	1213	C
South Buckhorn	5465	Cattle and Horses	318,353	20059	B,C,D,E
Thomas Creek	5467	Cattle	6,035	1078	C
Thomas Creek ffr	5483	Cattle	12,610	60	C
Battle Mountain BLM Field Office					
Arambel	10031	Cattle and Sheep		5254	G,I*
Argenta	20001	Cattle, Sheep and Horses	263,654	27212	B
Carico Lake	10003	Cattle, Sheep and Horses	340,951	49586	B
Corta	10033	Sheep	1,428	128	E
Diamond Springs	10035	Cattle		3675	E*
Flynn/Parman Indiv	10039	Cattle		2132	D*
Grass Valley	10006	Cattle, Sheep and Horses	268,935	41514	B
JD	10041	Cattle	158,920	9342	B,D
Lucky C	10043	Cattle	112,451	5081	G,I
North Diamond	10034	Cattle		5279	E*
Roberts Mountain	10046	Cattle and Sheep	167,470	17757	B,D,F,G,H
Romano	10047	Cattle	87,029	2092	F,G,H
Ruby Hill	10048	Cattle and Sheep	15,317	4853	G,H,I
Shannon Station	10051	Cattle	--	--	G,H,I
Spanish Gulch	10054	Cattle and Sheep	40,838	4853	G,H,I
Union Mountain	5473	Cattle	23,637	1759	E
Ely BLM Field Office					
Cold Creek	00603	Cattle	66,466	9129	E
Copper Flat	00427	Cattle and Sheep		3033	J*
Georgetown Ranch	00422	Cattle	27,052	1719	J
Heusser Mountain	00416	Cattle	43,553	1416	J
Moorman Ranch	00802	Cattle	139,272	10099	J
Newark	00608	Cattle and Sheep	254,281	9709	E,J,I
Railroad Pass	00601	Cattle	32,171	3002	E
Thirty Mile Spring	00503	Cattle and Sheep	183,087	8405	J
Warm Springs	00606	Cattle	351,777	23995	E
West Schell Bench	00433	Sheep	45,583	1460	J

-- Shannon Station combined with Spanish Gulch based on available data.

** Allotment not intersected by project centerline but lies within close proximity.*

Wild horse herds are managed according to guidelines provided in the three BLM RMPs previously mentioned:

- Shoshone-Eureka RMP (3,660 wild horses)
- Elko RMP (330 wild horses)
- Egan RMP (1,451 wild horses)

In the summer of 1999, wildfires affected two HMAs within the study corridor. Rocky Hills HMA was affected by the Trail Canyon Fire along Segment B, and Diamond Hills North HMA was affected by the Sadler Fire along Segment E. The Crusoe Fire in 2000 affected the Thirty Mile Spring HMA along Segment J. Drought conditions of 2000 may also affect all HMAs within the study corridor.

3.8.3 ENVIRONMENTAL CONSEQUENCES

SIGNIFICANCE CRITERIA

Project construction and operation activities would have a significant impact on range resources (livestock grazing and wild horses) if they would:

- Result in loss of forage such that it would adversely affect livestock operations and dramatically reduce the number of AUMs available.
- Substantially disrupt livestock movement and migration routes for wild horses.
- Substantially increase human disturbance/harassment to wild horses, burros, or livestock.
- Substantially conflict with the use of existing livestock grazing areas and Herd Management Areas for wild horses.

ENVIRONMENTAL IMPACTS - COMPARISON OF ALTERNATIVES

Impacts Common to All Route Alternatives

The following section describes impacts to range resources that would occur with any of the route alternatives. Increased presence of humans and noise during construction may cause livestock and wild horses to leave the vicinity of the construction areas. Mares may seek alternative foaling sites if the project is near traditional foaling locales. Cattle, sheep, and horses may not be able to access portions of their established grazing areas during construction. These impacts would be temporary and less-than-significant. However, access to water is critical for cattle and wild horses.

❑ ***Impact Range-1: Impact to Available Water Sources***

Project construction activities have the potential to disrupt grazing practices in the project area. Due to the linear nature of the project, the potential to decrease access to available water sources exists. It would be considered an adverse impact if the project prevents animals from accessing water sources. However, the following measure would ensure access to water during construction.

❑ ***Mitigation Measure Range-1***

If BLM range resource managers determine that construction would block livestock access to critical water sources, SPPC would provide alternative water sources away from the construction activities.

❑ ***Impact Range-2: Impact to Range Improvements***

Range improvements such as fences and gates may be found on both private and BLM lands. In areas where these improvements exist, sections may need to be removed or opened to

accommodate construction traffic. Open fences and gates may allow livestock to leave allotments and trespass on other lands, become lost, or potentially be struck by vehicles. Although this is not considered significant, mitigation is recommended. To reduce potential issues of trespassing livestock due to the removal of fences or gates, the following measure will be implemented.

❑ ***Mitigation Measure Range-2***

BLM range resource managers would coordinate with SPPC and permittees to locate range improvements that might require special attention. These could be areas that are actively being grazed which may require immediate attention when fencing or gates are removed. SPPC would ensure that all temporary openings have barriers across them to prevent movement of livestock through the openings. Gates that do not require removal would be closed directly after construction traffic accesses the construction areas. SPPC would repair all range improvements damaged or removed during construction activities immediately after construction is completed.

❑ ***Impact Range-3: Temporary Loss of Grazing Allotment Acreage***

As shown in Table 3.8-2, project construction activities would temporarily disturb between 2,000 and 2,177 acres of available forage in grazing allotment areas, depending on the route alternative selected. With the exception of Segment A, of which only 49 percent is designated as a grazing allotment, 100 percent of all other segments have grazing allotments. These numbers are based on large mapped polygons as shown on Figure 3.8-1. Private land, developed and disturbed lands, mines, and roads are not deducted from these estimates. This would not be a significant impact as disturbed areas would be revegetated after construction, as described in Appendix E, Reclamation Plan. The project would not significantly disrupt traditional grazing practices. No mitigation is necessary.

TABLE 3.8-2 TEMPORARY DISTURBANCE OF BLM GRAZING ALLOTMENTS

Route Alternative	Temporary Disturbance (acres)*	Total Route in Allotments (miles)
Crescent Valley		
(a)	2164.3	177.3
(b)	2176.5	177.8
Pine Valley		
(a)	2068.0	170.4
(b)	2080.2	170.9
Buck Mountain		
	2000.3	158.7

**This table is based on the temporary construction-related disturbance estimates contained in Chapter 2, Table 2-5. Adjustments have been made to reflect the fact that the Falcon substation and about half of Segment A are not within BLM grazing allotment areas.*
Source: EDAW GIS based on BLM and SPPC data.

❑ ***Impact Range-4: Long-term Loss of Grazing Allotment Acreage***

As shown in Table 3.8-3, after construction, the project would result in the long-term loss of between 237 and 265 acres of livestock grazing area and 18 to 15 AUMs under any of the five route alternatives. The greatest number of AUM losses from any one particular allotment area would be 4 AUMs from the Roberts Mountain Allotment along the Pine Valley (a) route alternative. However, this would be a minor impact and would not require mitigation.

TABLE 3.8-3 LONG-TERM DISTURBANCE OF BLM GRAZING ALLOTMENTS

Route Alternative	Long-Term Disturbance (acres)*	Total Route in Allotments (miles)
Crescent Valley		
(a)	264.5	177.3
(b)	265.2	177.8
Pine Valley		
(a)	254.5	170.4
(b)	255.4	170.9
Buck Mountain		
	237.4	158.7

**This table is based on the long-term disturbance estimates contained in Chapter 2, Table 2-6. Adjustments have been made to reflect the fact that the Falcon substation and about half of Segment A are not within BLM grazing allotment areas.*
Source: EDAW GIS based on BLM and SPPC data.

❑ ***Impact Range-5: Potential Long-Term Loss of AUMs within BLM Grazing Allotments***

The project could result in the long-term loss of AUMs (animal unit months) within BLM grazing allotment areas. Table 3.8-4 estimates the number of AUMs that would potentially be lost with each of the alternatives. The Pine Valley (a) and (b) route alternatives would involve the fewest AUMs lost (approximately 14 to 15), Buck Mountain would remove around 15 AUMs and the Crescent Valley (a) and (b) routes the most with 17 to 18 AUMs lost. This would be a minor impact and would not require mitigation.

TABLE 3.8-4: POTENTIAL LONG-TERM LOSS OF AUMS WITHIN BLM GRAZING ALLOTMENTS

Route Alternative	Grazing Allotment Disturbance (acres)*	AUMs Potentially Lost	Number of Allotments	Total Route within Allotments (miles)
Crescent Valley				
(a)	264.5	18.1	21	177.3
(b)	265.2	17.6	23	177.8
Pine Valley				
(a)	254.5	14.8	23	170.4
(b)	255.2	14.3	26	170.9
Buck Mountain				
	237.4	15.0	27	158.7

**This table is based on the long-term disturbance estimates contained in Chapter 2, Table 2-6. Adjustments have been made to reflect the fact that the Falcon substation and about half of Segment A are not within BLM grazing allotment areas.*
Source: EDAW GIS based on BLM and SPPC data

Livestock and Crops

High voltage transmission lines traverse thousands of miles of farmland where livestock and crop production is commonplace under and near these lines. Over the years, farmers have raised concerns about the potential for electric or magnetic fields (EMF) to adversely affect livestock, wildlife, or crops. There have been a number of studies of animals conducted concerning the biological effects of electric and magnetic fields on laboratory animals, farm animals, and wildlife. In animals, measurements of

biological effects include such endpoints as growth, estrus, breeding efficiency, fetal effects, milk production, litter size, chemical, blood, enzyme effects, and behavior (e.g., Amstutz 1980, Battelle 1981, Klein 1971, Morhardt 1984, PSU 1985a, WICHE 1975, Wouldiams 1979). The results from these studies support the conclusion that the electric and magnetic field levels found under normally operating high voltage lines, including the proposed 345 kV transmission line, do not produce adverse effects in livestock or wildlife. A number of studies have been made of the effects of electric and magnetic fields on food crop production and yields (e.g. AEP 1979, PSU 1985b). No significant adverse effects on plants or crops have been identified.

- ***Impact Range-6: Temporary Impacts to Wild Horses in Herd Management Areas***

  Wild horses from eight HMAs may be temporarily affected by project construction activities such as drilling, blasting, and sock line installation via helicopter, which could cause wild horses to flee these areas. These impacts would not be significant. However, the Rocky Hills and the Diamond Hills North HMAs could have greater stress for available forage since fires affected both of these HMAs in 1999. The 2000 fires did not affect HMAs near the study area (Figure 3.4-1). These two HMAs, however, are only peripherally transected by the proposed routes along Segments B and E (the Crescent Valley and Buck Mountain route alternatives, respectively; see Figure 3.8-2).

Alternative-Specific Impacts

There is very little difference in impacts between the route alternatives, and none of the impacts are considered significant. The Crescent Valley (a) and (b) route alternatives would cause the greatest extent of long-term disturbance in BLM grazing allotment areas (around 265 acres total); the Pine Valley (a) and (b) routes are in the middle with around 255 acres; and Buck Mountain would have the fewest with 237 acres. For potential loss of AUMs within BLM grazing allotment areas, the Pine Valley (a) and (b) route alternatives would involve the fewest AUMs lost (approximately 14 to 15), Buck Mountain would remove around 15 AUMs and the Crescent Valley (a) and (b) routes the most with 17 to 18 AUMs lost. However, as explained above, this would be a minor impact and would not require mitigation.

Summary Comparison of Route Alternatives

TABLE 3.8-5: SUMMARY OF IMPACTS BY ROUTE ALTERNATIVE

Impact	Crescent Valley (a)	Crescent Valley (b)	Pine Valley (a)	Pine Valley (b)	Buck Mountain
Impact Range-1: Impact to Available Water Sources	X	X	X	X	X
Impact Range-2: Impact to Range Improvements	X	X	X	X	X
Impact Range-3: Temporary Loss of Grazing Allotment Acreage	X	X	X	X	X
Impact Range-4: Long-term Loss of Grazing Allotment Acreage	X	X	X	X	X
Impact Range-5: Potential Long-term Loss of AUMs within Grazing Allotments	X	X	X	X	X
Impact Range-6: Temporary Impacts to Wild Horses in Herd Management Areas	X	X	X	X	X

RESIDUAL IMPACTS

After mitigation, residual impacts to grazing acreage, AUMs, and grazing permittees would be minor. There would be no residual impacts to wild horses.

NO ACTION ALTERNATIVE

Under the No Action Alternative, impacts to range resources associated with this project would not occur. However, range resource impacts could occur in other areas as SPPC and the Nevada PUC would begin emergency planning efforts to pursue other transmission and/or generation projects to meet the projected energy load capacity shortfall.